WHAT IS CLAIMED IS:

1. A method of forming an electronic device in a semiconductor layer, comprising:

forming an inner mask layer defining an active region on the outer surface of the semiconductor layer;

implanting a first channel stop region into the semiconductor layer on the periphery of the inner mask layer;

forming an outer mask layer covering the inner mask layer and portions of the outer surface of the semiconductor layer around the periphery of the inner mask layer, the portions of the semiconductor layer covered by the outer mask layer and not by the inner mask layer defining an extension zone;

implanting a second channel stop region in the semiconductor layer around the periphery of the outer mask layer;

removing the inner and outer mask layers; and

forming an electronic device in the active region, the electronic device comprising implanted regions at the periphery of the active region, the implanted regions of the electronic device separated from the second channel stop region by at least the extension zone.

2. The method of Claim 1 wherein the first channel stop region comprises a n-type channel stop region and the second channel stop region comprises a p-type channel stop region.

3. The method of Claim 1 and further comprising:

forming a field oxide layer proximate the first and second channel stop regions prior to removing the inner mask layer but after removing the outer mask layer.

4. The method of Claim 1 wherein the electronic device comprises a field effect transistor and wherein the implanted region of the device at the periphery of the active region comprise a source or drain of the field effect transistor.

5. The method of Claim 1 wherein the inner mask layer comprises silicon nitride.

6. The method of Claim 1 wherein the outer mask layer comprises photoresist.

7. A method of forming an electronic device in a semiconductor layer, comprising:

forming an inner mask layer defining an active region on the outer surface of the semiconductor layer;

implanting a first channel stop region into the semiconductor layer on the periphery of the inner mask layer;

forming an outer mask layer covering the inner mask layer and portions of the outer surface of the semiconductor layer around the periphery of the inner mask layer, the portions of the semiconductor layer covered by the outer mask layer and not by the inner mask layer defining an extension zone;

implanting a second channel stop region in the semiconductor layer around the periphery of the outer mask layer;

removing the inner and outer mask layers;

forming an electronic device in the active region, the electronic device comprising implanted regions at the periphery of the active region, the implanted regions of the electronic device separated from the second channel stop region by at least the extension zone; and

forming a field oxide layer proximate the first and the second channel stop regions prior to removing the inner mask layer but after removing the outer mask layer.

8. The method of Claim 7 wherein the electronic device comprises a field effect transistor and wherein the implanted region of the device at the periphery of the active region comprise a source or drain of the field effect transistor.

9. The method of Claim 7 wherein the inner mask layer comprises silicon nitride and the outer mask layer comprises photoresist.

10. An electronic system formed in a semiconductor layer, comprising:

a field effect transistor disposed in an active region of the outer surface of the semiconductor layer, the transistor comprising implanted regions proximate the periphery of the active region;

a field oxide layer on the outer surface of the semiconductor layer abutting the periphery of at least a portion of the active region; and

a channel stop implant region disposed in the semiconductor layer inwardly from portions of the field oxide layer and spaced apart from the periphery of the active region by an extension zone, the extension zone operable to inhibit the electrical interaction of the peripheral implanted regions of the transistor and the channel stop implant region.

11. The electronic system of Claim 10 wherein the channel stop implant region comprises a first channel stop implant region and further comprising a second channel stop implant region disposes in the semiconductor layer inwardly from the field oxide layer and disposed at least partly in the extension zone.

12. The electronic system of Claim 11 wherein the second channel stop implant region comprises implanted p-type impurities and the first channel stop implant comprises implanted n-type impurities.

13. The electronic system of Claim 11 wherein the second channel stop implant region comprises implanted p-type impurities and the first channel stop implant comprises implanted n-type impurities.